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EXAMINER

CHO, UN C

ART UNIT PAPER NUMBER

2682

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/086,910

Applicant(s)

HUANG ET AL.

Examiner

Un C Cho

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 14 and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 14 recites the limitation "said multiple wireless technologies of the network" in lines 1 –2 of the claim.

Claim 15 recites the limitation "said multiple wireless technologies" in line 1 of the claim.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3, 6 – 7, 10, 11, 15, 18 – 20, 23 – 25, 28 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Corriveau et al. (US 5,918,177).

Regarding claim 1, Corriveau teaches an apparatus (MSC) for wirelessly paging a mobile device based at least in part on a technological capability of the

mobile device (called mobile station's expected service type), the apparatus comprising: processing circuitry (service code generator Fig. 6, 51, service code comparison mechanism, Fig. 6, 53, paging mechanism, Fig. 6, 52, Col. 5, lines 8 – 21) configured to access information associated with the technological capability of the mobile device (called mobile station's expected service type) and to generate a paging request for the mobile device that is based at least partially on the technological capability of the mobile device (called mobile station's expected service type, , Col. 5, lines 44 – 49).

Regarding claim 2, Corriveau teaches that the paging request is based at least partially on an identifier associated with the mobile device to be paged (Electronic Serial Number / Mobile Identification Number, Fig. 3).

Regarding claim 3, Corriveau teaches that the apparatus (MSC-1) is in communication with a wireless network (Base Station, BS-1) that comprises at least one cell (BS-1 controlling associated cell), said at least one cell being configured to receive the paging request generated by the processing circuitry and to wireless broadcast the paging request via an antenna of the network to enable said at least one cell to wirelessly communicate with the mobile device being paged (BS-1 receiving paging order and broadcasting to the respective MS, Col. 3, line 65 through Col. 4, line 2).

Regarding claim 6, Corriveau teaches that the technological capability (expected service type) corresponds to one or more specific channels (Frequency Shift Keying Control Channel, FSK CC) over which the mobile device

being paged is capable of communicating and over which said at least one cell (BS-1) is capable of communicating with mobile device (Col. 3, lines 19 – 29 and line 65 through Col. 4, line 2).

Regarding claim 7, Corriveau teaches that the processing circuitry (service code generator Fig. 6, 51, service code comparison mechanism, Fig. 6, 53, paging mechanism, Fig. 6, 52, Col. 5, lines 8 – 21) is comprised at a MSC of the wireless network, and wherein the technological capability (expected service type) of the mobile device is stored at the MSC of the wireless network (Col. 5, lines 44 – 49), the MSC being the home MSC (MSC-1) of the mobile device (Col. 3, lines 58 – 60).

Regarding claim 10, Corriveau teaches that when the mobile device is to be paged, the MSC generates a paging order that is broadcast only to mobile devices that have the same technological capability (expected service type) of the mobile device being paged (Col. 3, line 65 through Col. 4, line 2 and Col. 5, lines 44 – 49).

Regarding claim 11, Corriveau teaches that the MSC (MSC-1, MSC-2) is a serving MSC of the mobile device and wherein the serving MSC determines when the mobile device has registered with the network comprising the serving MSC (mobile device pages one of the bordering MSC, Col. 3, lines 19 – 35) and wherein the serving MSC obtains information relating to the technological capability of the mobile device (mobile station's expected service type) from the home MSC (MSC-1 and MSC-2 communicates relevant information through

internal signaling) of the mobile device (Col. 4, lines 11 – 52) and wherein the serving MSC (MSC-1, MSC-2) uses the information obtained by the home MSC when generating a page order for the mobile device that is based at least partially on the information obtained from the home MSC relating to the technological capability of the mobile device (mobile station's expected service type) (Col. 3, line 50 through Col. 4, line 10 and Col. 5, lines 44 – 49).

Regarding claim 15, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claim 18, the claim is interpreted and rejected for the same reason as set forth in claim 1.

Regarding claim 19, the claim is interpreted and rejected for the same reason as set forth in claim 2.

Regarding claim 20, the claim is interpreted and rejected for the same reason as set forth in claim 3.

Regarding claim 23, the claim is interpreted and rejected for the same reason as set forth in claim 6.

Regarding claim 24, Corriveau teaches that the processing circuitry (service code generator Fig. 6, 51, service code comparison mechanism, Fig. 6, 53, paging mechanism, Fig. 6, 52, Col. 5, lines 8 – 21) is comprised at a MSC of the wireless network, and wherein the technological capability (expected service type) of the mobile device is stored at the MSC of the wireless network (Col. 5, lines 44 – 49).

Regarding claim 25, Corriveau teaches that the MSC is the home MSC (serving MSC-1) of the mobile device (Col. 3, lines 58 – 60).

Regarding claim 28, the claim is interpreted and rejected for the same reason as set forth in claim 10.

Regarding claim 29, the claim is interpreted and rejected for the same reason as set forth in claim 11.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4, 5, 13, 14, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corriveau in view of La Medica, Jr. et al (US 6,625,451).

Regarding claim 4, Corriveau teaches wirelessly broadcasting paging order to mobile devices (Col. 3, line 65 through Col. 4, line 2).

However, Corriveau does not specifically disclose that the technological capability includes a wireless protocol technology that said at least one cell utilizes to wirelessly broadcast paging requests to mobile devices that have the technological capability to wirelessly communicate using said wireless protocol technology. On the other hand La Medica discloses that the technological capability includes a wireless protocol technology (CDMA protocol IS-95) that at

least one cell (base stations) utilizes to communicate with mobile devices that have the technological capability to wirelessly communicate using said wireless protocol technology (CDMA protocol IS-95, Col. 10, lines 49 – 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of La Medica to the system of Corriveau in order to provide a system selection techniques by providing user selectable modes of operation, which allow certain fall-back options when a preferred system may not be available, but still steers the bulk of the system selection operations to preferred systems.

Regarding claim 5, Corriveau teaches wirelessly broadcasting paging order to mobile devices (Col. 3, line 65 through Col. 4, line 2).

However, Corriveau does not specifically disclose that the technological capability corresponds to a band class over which said at least one cell is configured to wirelessly broadcast paging requests and over which the mobile device being paged is configured to wirelessly communicate. On the other hand La Medica teaches that the technological capability corresponds to band classes (analog and/or digital) over which said at least one cell (base stations) is configured to wirelessly communicate with mobile devices and over which the mobile device is configured to wirelessly communicate (Col. 10, lines 49 – 67). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of La Medica to the system of Corriveau in order to provide a system selection techniques by providing user

selectable modes of operation, which allow certain fall-back options when a preferred system may not be available, but still steers the bulk of the system selection operations to preferred systems.

Regarding claim 13, the claim is interpreted and rejected for the same reason as set forth in claim 4.

Regarding claim 14, the claim is interpreted and rejected for the same reason as set forth in claim 5.

Regarding claim 21, the claim is interpreted and rejected for the same reason as set forth in claim 4.

Regarding claim 22, the claim is interpreted and rejected for the same reason as set forth in claim 5.

5. Claims 8, 9, 16, 17, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Corriveau in view of Lamb et al. (US 6,697,620).

Regarding claim 8, Corriveau does not specifically disclose that the technological capability of the mobile device is stored in a HLR of the home MSC.

However, Lamb discloses that the user profile of the mobile device is stored in a HLR of the home MSC (Col. 1, lines 38 – 57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Lamb to the system of Corriveau in order to

provide a method and system for providing seamless, wireless telecommunication services to customers that move between disparate networks.

Regarding claim 9, Corriveau does not specifically disclose that the technological capability of the mobile device is stored in a VLR of the home MSC.

However, Lamb discloses that the user profile of the mobile device is stored in a VLR of the home MSC (Col. 1, lines 38 – 57). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of Lamb to the system of Corriveau in order to provide a method and system for providing seamless, wireless telecommunication services to customers that move between disparate networks.

Regarding claim 16, the claim is interpreted and rejected for the same reason as set forth in claim 8.

Regarding claim 17, the claim is interpreted and rejected for the same reason as set forth in claim 9.

Regarding claim 26, the claim is interpreted and rejected for the same reason as set forth in claim 8.

Regarding claim 27, the claim is interpreted and rejected for the same reason as set forth in claim 9.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Corriveau in view of Lamb et al. (US 6,697,620) and further in view of De Oliveira (US 6,763,004).

Regarding claim 12, Corriveau in view of Lamb as applied to claim 8 above discloses that the MSC generates a paging order that is broadcast only to mobile devices that have the same technological capability (expected service type) of the mobile device being paged (Corriveau, Col. 3, line 65 through Col. 4, line 2 and Col. 5, lines 44 – 49) and also discloses that the home MSC accesses the registration information and includes the registration information in the user profile when signaling is generated (Lamb, Col. 1, lines 38 – 57).

However, Corriveau in view of Lamb as applied to claim 8 above differ from claim 12 in the present invention in that, Corriveau in view of Lamb does not specifically disclose that the mobile device being paged is first broadcast in a last zone in which the mobile device being paged registered with the network. On the other hand, De Oliveira teaches that the mobile device being paged is first broadcast in a last known location in which the mobile device being paged registered with the network (Col. 1, lines 15 – 26) and in the same field of endeavor, Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the technique of De Oliveira to the modified system of Corriveau in order to provide an improved system and method for transmitting page messages from MSCs to BSs in a cellular network that eliminates the heavy signaling burden.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lupien (US 6,006,091) discloses a method in a cellular telecommunications network of informing the network of a plurality of operating capabilities of a mobile terminal.

Kallin et al. (US 6,058,308) discloses an apparatus and an associated method for adaptively selecting a paging area throughout which to page a mobile terminal.

Papadimitriou et al. (US 2002/0187793) discloses a system and methods of global paging of mobile stations in a wireless network.

Turina et al. (US 6,771,983) discloses an efficient and flexible routing of signaling messages between a core network and an access network in a mobile communication cellular network.

Hardin (US 6,795,704) discloses a teleservice based capability report and mobile station status message provides information to a base station about the capabilities of a mobile station including its mandatory features and its optional features.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Un C Cho whose telephone number is (703)305-8725. The examiner can normally be reached on M ~ F 8:00AM to 4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on (703)308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Un C Cho
Examiner
Art Unit 2682


07/1/04
LESTER G. KINCAID
PRIMARY EXAMINER